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1 1. A method of preparing bone marrow stromal cells
2 for implantation for gene therapy, said method comprising:
3 (a) obtaining bone marrow stromal cells;
4 (b) culturing the stromal cells to obtain an
5 expanded number of cultured stromal cells;
6 (c) transfecting cultured stromal cells with an
7 exogenous gene to obtain transfected stromal cells; and
8 (d) cryopreserving the transfected stromal cells
9 until implantation.

1 2. The method of claim 1, wherein the bone marrow
2 stromal cells are obtained from bone marrow from a
3 vertebrate.

1 3. The method of claim 1, wherein the bone marrow
2 stromal cells are obtained from bones removed from a
3 vertebrate.

1 4. The method of claim 1, wherein the bone marrow
2 stromal cells are mammalian.

1 5. The method of claim 4, wherein the bone marrow
2 stromal cells are human.

1 6. The method of claim 4, wherein the bone marrow
2 stromal cells are canine.

1 7. The method of claim 1, wherein said exogenous
2 gene encodes a secreted peptide.

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1 8. The method of claim 7, wherein said secreted
2 peptide is a serum protein, a blood clotting factor, a
3 cytokine, a lymphokine, a growth factor, a peptide hormone,
4 a lipid binding protein, a metabolic enzyme, an
5 antibacterial peptide, an antimicrobial peptide, an
6 antifungal peptide, or a neurotransmitter.

1 9. The method of claim 8, wherein said blood
2 clotting factor is factor VIII or factor IX.

1 10. The method of claim 1, wherein said exogenous
2 gene encodes a cell surface molecule.

1 11. The method of claim 10, wherein said cell
2 surface molecule is V-CAM-1, I-CAM-1, N-CAM, or V-LAM.

1 12. A method of preparing bone marrow stromal cells
2 for implantation for gene therapy, said method comprising:
3 (a) obtaining bone marrow stromal cells;
4 (b) culturing the stromal cells to obtain an
5 expanded number of cultured stromal cells;
6 (c) cryopreserving the cultured stromal cells;
7 (d) thawing the cryopreserved stromal cells; and
8 (e) transfecting the thawed stromal cells with an
9 exogenous gene prior to implantation.

1 13. The method of claim 12, wherein the bone marrow
2 stromal cells are mammalian.

1 14. The method of claim 12, wherein the bone marrow
2 stromal cells are human.

1 15. The method of claim 12, wherein the bone marrow
2 stromal cells are canine.

1 16. The method of claim 12, wherein said exogenous
2 gene encodes a secreted peptide.

1 17. A method of preparing bone marrow stromal cells
2 for implantation for gene therapy, said method comprising:
3 (a) obtaining bone marrow cells from bone marrow;
4 (b) cryopreserving the bone marrow cells;
5 (c) thawing the cryopreserved bone marrow cells;
6 (d) culturing the thawed bone marrow cells to obtain
7 an expanded number of cultured stromal cells; and
8 (e) transfecting the cultured stromal cells with an
9 exogenous gene prior to implantation.

1 18. The method of claim 17, wherein the bone marrow
2 stromal cells are human.

1 19. The method of claim 17, wherein the bone marrow
2 stromal cells are canine.

1 20. The method of claim 17, wherein said exogenous
2 gene encodes a secreted peptide.

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